

# SREB



*MAKING  
MIDDLE GRADES  
WORK*

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MAKING SCHOOLS  
WORK

## What Works to Improve Student Achievement in the Middle Grades

*A Making Middle Grades Work  
Research Report*

*by Sondra Cooney and Gene Bottoms*

Southern  
Regional  
Education  
Board

592 10th St. N.W.  
Atlanta, GA 30318  
(404) 875-9211  
[www.sreb.org](http://www.sreb.org)

## Foreword

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The Southern Regional Education Board (SREB) has adopted 12 Challenge to Lead Goals for education to help SREB states lead the nation in educational progress. One of these 12 goals specifically addresses getting middle grades students ready to do challenging high school studies.

SREB Challenge to Lead Goal:

*Achievement in the middle grades for all groups of students exceeds national averages and performance gaps are closed.*

Visits in the last several years to over 150 middle grades schools indicate that goals and priorities often are unclear to teachers, students and communities. While states have set content and performance standards in core academic areas, these standards now need to be translated into daily classroom work.

One way in which SREB can assist states is through projects that translate standards and research-based practices into policies and improvement strategies in districts and schools. *Making Middle Grades Work (MMGW)* is one such project which helps schools use data and research to improve student achievement.

Lessons learned from working with districts and schools help SREB and states design policies and highlight school and classroom practices that accelerate student achievement. As an example, over the last six years, SREB states have sponsored professional development in reading for middle grades teachers and upgraded course requirements in reading for new teachers.

Similarly, the data gathered from schools and the experiences gained from implementing research-based practices are shared with leaders and practitioners throughout the SREB states. Case studies, research briefs and special guides help spread the evidence of what works to accelerate student achievement.

The SREB-State Middle Grades Network involving 26 schools in 1999 has grown to more than 200 schools in 13 member states in 2003. These states are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia. This network of schools has proof that we can raise student achievement by implementing an education improvement framework that works!

If you are interested in joining this growing network of schools committed to excellence, please contact Toni Eubank at (404) 875-9211 ext. 310 or e-mail [toni.eubank@sreb.org](mailto:toni.eubank@sreb.org). If you would like more information on policies that help improve schools and raise student achievement, please contact Gene Bottoms at 404-875-9211 ext. 277 or e-mail [gene.bottoms@sreb.org](mailto:gene.bottoms@sreb.org).

Mark Musick  
President  
Southern Regional Education Board

## Introduction

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In 1997, the Southern Regional Education Board (SREB) and 14 states launched a comprehensive middle grades improvement effort based on years of experience with successful high school reform. The *Making Middle Grades Work* (MMGW) effort began with extensive research on the status of middle grades education in the southern region (Cooney, 1998). SREB's theory of change has a very clear goal of raising student achievement based on a framework of research-based key practices and conditions, continuous improvement through data collection and analysis, and membership in a network of schools supporting improvement.

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### A Design for Comprehensive Middle Grades Improvement

The SREB recommendations for comprehensive improvement in middle grades education require changes in:

- the school's mission;
- what is taught;
- how students are taught;
- what is expected of students;
- how the school is organized;
- how teachers relate to students, each other and parents;
- how students are supported;
- how the school uses data;
- how teachers are prepared, selected and supported; and
- the leadership within the school.

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The SREB-State Middle Grades Consortium has three years of data on a growing network of schools. This report examines the comprehensive improvement design and its implementation in schools by addressing four questions:

- Do eighth grade students in the network's schools and classrooms have higher student achievement?
- Why do schools with similar demographic characteristics perform differently?
- Why do eighth grade students in schools that have more fully implemented the *MMGW* design have higher student achievement?
- What can states, districts and schools do to improve middle grades achievement?

The answers were found in visits to 52 schools in 16 states, surveys of teachers and students, and an assessment of reading, mathematics and science administered to eighth-graders in these schools. **These data reveal that raising student achievement in the middle grades requires sustained effort by school leaders and teachers who accept responsibility for preparing students for challenging high school studies.**

## Summary of Findings

### **Do eighth grade students in *Making Middle Grades Work* schools and classrooms have higher student achievement?**

- Schools that have been in the network for at least three years had statistically higher student achievement in reading and mathematics. This finding holds true for African-American students and for students whose mothers have a high school education or less.
- In reading, the lowest-scoring 25 percent of eighth grade students raised their scores significantly and moved closer to the basic level of performance; in mathematics, the lowest-scoring 25 percent of eighth grade minority students and female students raised their scores closer to the basic performance level.
- Schools that have been in the network for at least three years made more progress between 2000 and 2002 than the nation made between 1998 and 2002 in increasing the percentages of students who scored at the basic and proficient levels in reading.
- Schools that have been in the network for at least three years made as much progress (between 2000 and 2002) as the nation made (between 2000 and 2003) in increasing the percentages of students scoring at the basic level in mathematics.

### **Why do schools with similar demographic characteristics perform differently?**

- Improved urban and rural schools that more fully implemented across-the-curriculum literacy strategies to engage students in learning challenging material in all subjects had significantly higher student achievement than students in comparison schools.
- Improved urban and rural schools provided students with richer and more accelerated learning experiences in literacy, numeracy and science and combined these efforts with higher classroom expectations. Teaching more rigorous content, setting higher expectations and willingly helping students meet higher standards are factors that contribute to higher achievement.
- Students in improved urban and rural schools had significantly higher mathematics achievement than students in comparison schools. More students in the improved schools had access to an accelerated mathematics curriculum including algebra and were in classrooms where teachers used technology and real-world problems to teach mathematics concepts.

### **Why do eighth grade students in schools that have more fully implemented the *Making Middle Grades Work* design have higher student achievement?**

- Eighth-graders who reported intensive literacy, mathematics and science experiences had significantly higher reading, mathematics and science achievement, regardless of race/ethnicity and mothers' educational levels.
- Eighth grade students who reported that they often were able to get extra help when they needed it were more likely to perform at a higher level.
- The guidance programs in these schools encouraged students to take algebra in the middle grades. Students benefit if they have a written program of study for high school and if their parents are aware of what it takes to succeed in challenging high school studies.
- *MMGW* schools that improved in reading, mathematics and science had more teachers with academic majors in English/literature, mathematics or science than did schools that made no progress.
- Considerably more teachers at schools that have been in the network for at least three years — compared with those at schools entering the network — were given time to meet in teams to plan curriculum and instruction.
- In schools that implemented the design more fully, students reported an increase in real-world academic assignments that require higher-order thinking skills.
- Fewer teachers in network schools in 2002 than in 2000 reported that they needed professional development in improving content knowledge and in using research-based practices in the classroom.

## Does achievement increase for eighth grade students in *Making Middle Grades Work* schools and classrooms? \_\_\_\_\_

In comprehensive school reform, it is difficult for schools to make progress in all content areas at the same time. One-fourth (13 of 52) of the schools that joined the *MMGW* network in 1999 and participated in the 2000 and 2002 Middle Grades Assessment increased performance in all three areas — reading, mathematics and science. Thirty-one percent (16 schools) showed no advances.

The increase in the mean reading score from 154.3 to 156.9 is significant at the .01 level. The increase in the mean mathematics score from 153.1 to 155.2 is significant at the .05 level. The decrease in the mean science score from 154.4 to 153.5 is not statistically significant.

### ***Making Middle Grades Work* schools outpace schools nationally in achievement growth.**

In the beginning, eighth-graders in the network's states trailed students in other parts of the nation significantly on the National Assessment of Educational Progress (NAEP). One way to determine if schools are improving is to compare the gains of the original 52 *MMGW* schools with gains in the rest of the nation during a similar time period. Between 2000 and 2002, network schools increased the percentages of students scoring at the basic and proficient levels in reading by two percentage points each. (See Table 1.) Greater progress took place in *MMGW* schools over a two-year period than in schools nationally over a four-year period. While the Middle Grades Assessment and the NAEP are different tests and cannot be compared directly, Educational Testing Service (ETS) helped SREB reference the proficiency levels of the Middle Grades Assessment to the NAEP levels.

Network schools accomplished the same amount of progress in mathematics over a two-year period as schools nationally over a three-year period. Between 2000 and 2002, they increased the percentages of students scoring at the basic level in mathematics by one percentage point. No pattern could be determined in science because the NAEP data are from 1996 to 2000, a time period that does not coincide with the Middle Grades Assessment.

**Table 1**  
**Reading Performance Levels of Students in**  
**52 *MMGW* Schools Compared to Students Nationally on NAEP**

Performance Level	Middle Grades Assessment		NAEP	
Reading	2000	2002	1998	2002
Below Basic	30%	26%	26%	25%
Basic	42	44	41	43
Proficient	27	29	30	30
Advanced	1	1	3	3
Mathematics	2000	2002	2000	2003
Below Basic	38%	36%	34%	32%
Basic	39	40	38	39
Proficient	20	20	22	24
Advanced	4	4	5	5

## ***Making Middle Grades Work* schools close performance gaps based on gender and ethnicity.**

SREB set a challenge to lead goal for 2012 that says, “**Achievement in the middle grades for all groups of students exceeds national averages and performance gaps are closed.**” In keeping with the federal No Child Left Behind Act of 2002, this goal emphasizes the importance of getting all middle grades students to perform at a level that will lead to success in a college-preparatory curriculum in high school. Assessment scores of students in the lowest quartiles should increase until the huge gaps in eighth grade achievement are closed.

The first Middle Grades Assessment in 2000 uncovered significant gaps between the highest and lowest performing students by gender and ethnicity. All groups of students in the lowest quartile improved five to eight points in reading between 2000 and 2002. All groups of students in the lowest quartile except whites improved two to six points in mathematics in the same two-year span. Students in the highest performing quartile — except females in mathematics and ethnic groups other than African-Americans in science — either maintained or improved their performance. (See Table 2.)

**The lack of improvement in science by the highest quartile students and the decline in science by the lowest quartile students are “red flags” that should prompt schools to take a hard look at science curriculum and instruction in the middle grades.**

**Table 2**  
**Students’ Scores by Gender and Ethnicity in 52 Schools**  
**Implementing the Design for Three Years**

Students by Quartile	Reading Scores		Point Change	Mathematics Scores		Point Change	Science Scores		Point Change
	2000	2002		2000	2002		2000	2002	
<b>Lowest 25%</b>									
Female	112	118	+6	110	114	+4	110	108	-2
Male	106	112	+6	109	111	+2	107	104	-3
African-American	107	112	+5	106	111	+5	106	104	-2
White	110	116	+6	113	113	0	112	109	-3
Other Ethnic	104	112	+8	105	111	+6	104	104	0
<b>Highest 25%</b>									
Female	194	194	0	193	192	-1	190	190	0
Male	189	192	+3	195	197	+2	194	194	0
African-American	189	190	+1	190	190	0	185	187	+2
White	193	194	+1	194	195	+1	193	193	0
Other Ethnic	191	194	+3	193	193	0	192	190	-2

**Reading proficiency levels:** Below Basic (134 or lower), Basic (135-171), Proficient (172-221), Advanced (222 or higher)

**Mathematics proficiency levels:** Below Basic (142 or lower), Basic (143-177), Proficient (178-209), Advanced (210 or higher)

**Science proficiency levels:** Below Basic (148 or lower), Basic (149-174), Proficient (175-211), Advanced (212 or higher)

While it is clear from the data that schools are raising eighth-graders’ achievement, it is also obvious that they have a lot of work to do in meeting the goal to prepare all students for college-preparatory studies in the ninth grade.

## Why do schools with similar demographic characteristics perform so differently?

To gain a better understanding of why some schools make dramatic improvement while others stand still, SREB matched the schools by size, minority enrollment and the percentages of mothers with a high school education or less. Two pairs of schools — one urban and one rural — varied by less than 10 percent on all matching characteristics.

The improved schools raised performance in all three areas between 2000 and 2002. (See Table 3.) The comparison schools improved in reading only and that gain was not statistically significant.

**Table 3**  
**Scores on the Middle Grades Assessment**  
**at Improved Urban and Rural Schools and Comparison Schools**

Mean Score	Reading		Mathematics		Science	
	2000	2002	2000	2002	2000	2002
Improved Urban School	144	170	139	158	135	154
Comparison Urban School	153	160	151	149	154	147
Improved Rural School	141	156	152	160	160	165
Comparison Rural School	151	152	158	153	153	147

Improved Urban School sample size is 58. Comparison Urban School sample size is 58.  
Improved Rural School sample size is 83. Comparison Rural School sample size is 60.

As part of the Middle Grades Assessment, students report their experiences in literacy, mathematics and science. To measure progress in implementing a rigorous and challenging academic curriculum, SREB uses students' responses on clusters of survey items to identify activities they experience related to student achievement. The intensity of the activities is determined by the number and the frequency. (See Tables 4, 5 and 6.)

The cluster of activities in each core content area provides benchmarks for schools to check their progress in implementing research-based practices that engage students in learning meaningful and challenging content. In addition, the experiences show how effectively the *MMGW* framework of research-based key practices is being used in schools and classrooms.

When more students report moderate and intensive experiences, it indicates that students have access to classrooms with a stronger emphasis on literacy, numeracy and academic performance. If fewer students report moderate and intensive experiences, it indicates that the classroom emphasis on these things is weak.

### Literacy Experiences

- Complete short writing assignments of one to three pages **at least monthly**.
- Prepare a major research paper **once a year or once a semester**.
- Make an oral presentation **at least once a semester**.
- Read outside of school **one hour or more daily**.
- Read at least 11 books or more **each school year**.
- Write sentences in mathematics **at least monthly**.
- Use word processing to complete assignments **at least sometimes**.
- Revise essays to meet standards **at least sometimes**.

**Table 4**  
**Percentages of Students with Literacy Experiences**  
**at Improved and Comparison *MMGW* Schools**

	Intensive	Moderate	Low
Improved Urban School	30%	52%	18%
Comparison Urban School	15	46	39
Improved Rural School	15	57	28
Comparison Rural School	7	35	58

Low: none to three activities

Moderate: four or five activities

Intensive: six to eight activities

One explanation for the differences is that the improved schools have more fully implemented classroom strategies that engage students in learning challenging content. More than 80 percent of students in the improved urban school reported having at least moderate literacy experiences, compared to 61 percent in the comparison urban school. Seventy-two percent of students in the improved rural school had at least moderate literacy experiences, compared to only 42 percent in the comparison rural school.

Improved urban and rural schools get more students to perform at a higher level by offering an accelerated mathematics curriculum, making greater use of technology and engaging students in solving real-world problems and learning higher-level content. More students in the improved schools take algebra, while many students in the comparison schools are stuck in “arithmetic land.” **The *MMGW* goal is for all students to complete Algebra I in the eighth grade or to be ready to take Algebra I in grade nine.**

### Numeracy Experiences

- Develop and analyze tables, charts and graphs **often**.
- Use a scientific calculator to solve problems **at least weekly**.
- Solve mathematics problems other than those in the textbook **at least weekly**.
- Take a **semester or more** of something called “algebra” in the sixth, seventh or eighth grade.
- Take an advanced mathematics class in the middle grades.

**Table 5**  
**Percentages of Students with Numeracy Experiences**  
**at Improved and Comparison *MMGW* Schools**

	Intensive	Moderate	Low
Improved Urban School	30%	52%	18%
Comparison Urban School	27	39	34
Improved Rural School	12	52	36
Comparison Rural School	21	35	44

Low: none or one activity

Moderate: two or three activities

Intensive: four or five activities



Eighty-two percent of students at the improved urban school had at least moderate numeracy experiences, compared to 66 percent at the comparison urban school. Sixty-four percent of students at the improved rural school had at least moderate numeracy experiences, compared to 56 percent at the comparison rural school. All of the schools have work to do to meet the *MMGW* goal.

The *MMGW* goal is for all students to enter high school ready to enroll in college-preparatory science courses. Science has taken a back seat in both the elementary and the middle grades as schools have focused on improving language arts and mathematics. Too often, science is taught with textbooks, pencils and paper. More students report having intensive science experiences if their schools offer well-equipped science laboratories and well-prepared science teachers who know how to motivate students to learn scientific concepts.

### Science Experiences

- Study living things in science.
- Study chemistry in science.
- Study simple machines in science.
- Study the environment in science.
- Complete science projects that take a week or more.
- Write laboratory reports on science investigations **at least once a semester.**
- Work with other students on a challenging science assignment **at least once a semester.**
- Use equipment to do activities in a science laboratory with tables and sinks **at least once a semester.**

The improved urban school showed a 19-point increase in science achievement, while the improved rural school gained only seven points. One possible explanation is that 30 percent more students at the improved urban school than at the improved rural school had moderate to intensive science experiences. (See Table 6.) **Mixed results in science reflect the overall lack of progress in improving science achievement in *MMGW* schools. Yet only two of 52 schools with at least three years of experience in *MMGW* identified science as a priority for improvement.**

**Table 6**  
**Percentages of Students with Science Experiences**  
**at Improved and Comparison *MMGW* Schools**

	Intensive	Moderate	Low
Improved Urban School	22%	60%	18%
Comparison Urban School	15	57	28
Improved Rural School	1	51	49
Comparison Rural School	8	56	36

Low: none to four activities

Moderate: five or six activities

Intensive: seven or eight activities

### Students' Perceptions of Teachers' Expectations

- Teachers **often** encourage me to do well in school.
- Teachers **often** set high standards and are willing to help me meet them.
- Teachers **often** indicate the amount and quality of work necessary to earn an A or a B.
- I **often** revise essays or other written work several times to improve its quality.
- I **often** work hard to meet high standards on assignments.
- I spend **one hour or more daily** on homework.

More students in an improved urban school than at a comparison school reported having teachers who expected them to achieve at a high level. High standards were not apparent at rural schools, where differences between the improved school and the comparison school were smaller and showed mixed results. (See Table 7.) Observations and interviews suggest that rural schools may be less diligent in implementing the *MMGW* design.

**Table 7**  
**Percentages of Students Reporting Expectations at Improved and Comparison *MMGW* Schools**

	Intensive	Moderate	Low
Improved Urban School	35%	45%	20%
Comparison Urban School	31	37	32
Improved Rural School	35	37	28
Comparison Rural School	29	55	16

Low: none or one activity

Moderate: two or three activities

Intensive: four to six activities

The answers to why similar schools perform differently and to why urban schools are outpacing other schools are rooted in two factors: 1) The higher-performing schools offer a challenging curriculum that engages students in learning, and 2) these schools have high expectations for student performance. The two conditions work together to raise student achievement.

**Why do students in improved urban and rural schools make greater gains than students in demographically similar schools? One possibility is that the improved schools place more emphasis on literacy across the curriculum; provide an enriched, accelerated mathematics curriculum for more students; and have higher classroom expectations.** (See Table 8.)

**Table 8**  
**Achievement Gains at *MMGW***  
**Improved Schools and Comparison Schools**

	Reading Point Change	Mathematics Point Change	Science Point Change
<b>Improved Urban School</b>	+26	+19	+19
<b>Comparison Urban School</b>	+7	-2	-7
<b>Improved Rural School</b>	+15	+8	+5
<b>Comparison Rural School</b>	+1	-5	-6

Improved Urban School sample size is 58. Comparison Urban School sample size is 58.  
Improved Rural School sample size is 83. Comparison Rural School sample size is 60.

In considering why the improved urban school outperformed the improved rural school, one possible explanation is that the urban school implemented the recommended curriculum more fully. For example:

- 82 percent of students in the improved urban school experienced intensive to moderate literacy strategies, compared to 72 percent in the improved rural school.
- 82 percent of students in the improved urban school experienced intensive to moderate numeracy strategies, compared to 64 percent in the improved rural school.
- 82 percent of students in the improved urban school experienced intensive to moderate science strategies, compared to 52 percent in the improved rural school.

## Do students in schools and classrooms that have more fully implemented the design have higher student achievement? \_\_\_\_\_

The *MMGW* design contains 10 key practices for middle grades schools to address in raising student achievement. In the following pages, these practices have been incorporated into six strategies to help schools improve academic performance. Data from network schools show how these practices contribute to school and student improvement.

### **Strategy 1: Set a clear mission and a vision of success.**

There is no simple answer to why student performance lags in the middle grades. However, there are definite reasons why some schools make more progress than others. This disparity can be altered by “getting the mission right.” The mission of middle grades schools is to prepare students for college-preparatory studies in high school. It is no accident that schools focusing on academic excellence have higher student achievement.

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## Middle Grades Mission

**The mission of this school is to ensure that all students leave the eighth grade with the knowledge and skills to be successful without remediation in a college-preparatory curriculum in the ninth grade and with a plan of study for completing high school and preparing for future education and a career.**

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The Consortium on Chicago School Research explored why some schools work while others do not. Researchers found that one-third of schools improved, one-third remained about the same and one-third appeared “dead in the water.” One writer describes schools as “bad, good enough and excellent” and contends that most schools fall in the “good enough” category (John Merrow, 2001). These sources contain evidence that a school improves if it has a clear mission and a coherent vision for attaining it.

Fewer than half of middle grades teachers believe their schools are taking responsibility for preparing all students to do challenging high school work. Only 12 percent of teachers said the “primary” goal of the middle grades is to ensure that all students have academic knowledge and skills for college-preparatory studies. On the positive side, 42 percent of teachers ranked such preparation as a “very important” goal and about two out of five teachers “strongly agreed” that their schools’ goals and priorities are clear and that their colleagues push students to do their best.

Specific activities and assignments can serve as benchmarks for schools in measuring progress in implementing the *MMGW* design. The *MMGW* teacher survey showed that more teachers are assigning rigorous content and activities that equip students for high school. (See Table 9.) If schools step up the requirement for students to perform challenging tasks, the result will be higher student achievement.

**Table 9**  
**Activities and Assignments Required by Teachers**  
**in 52 *MMGW* Schools**

<b>Teachers require students to:</b>	<b>2000</b>	<b>2002</b>
Participate in class discussions at least daily or weekly.	69%	76%
Write explanations about what was observed and why something happened at least once or twice a month.	42	49
Represent and analyze relationships using tables and charts at least once or twice a month.	59	61
Take a test that is predominantly essay at least once or twice a semester.	49	52
Design and implement a research project and prepare a written report on it at least once or twice a semester.	44	47

**The middle grades mission is beginning to shift from “getting students through the eighth grade” to preparing students for success in a college-preparatory program.** The changes are subtle, but they reinforce the importance of a clear mission in carrying out a comprehensive improvement plan. Consensus on the mission and goals by administrators, teachers and families is an essential first step toward getting students ready for rigorous high school studies.

*Students at Centreville Middle School in Maryland study the school’s mission statement before developing personal statements they read at the beginning of student-led conferences with parents and teachers. These conferences build support for the school’s goals and priorities and involve parents in helping their children plan challenging programs of study. The school’s mission statement helps teachers and students structure their daily work and allows the school to measure individual and classroom progress.*

## **Strategy 2: Provide a rigorous and challenging curriculum to prepare students for college-preparatory studies in high school.**

### **Key Elements:**

- An academic core aligned to what students must know, understand and be able to do to succeed in college-preparatory English, mathematics and science.
  - All students satisfactorily complete Algebra I or pass a pre-algebra test of proficiency and use algebra concepts to reason and solve problems.
  - All students use laboratory and technology experiences to learn scientific concepts in physical, life and earth/space science.
  - Reading instruction is incorporated into all content areas in the academic core curriculum through grade eight.
  - All students use language correctly and effectively to find, organize and communicate information.
- Teachers working together to plan, develop and coordinate learning activities and to share student work that demonstrates proficiency standards.

A literature search on academic achievement in the middle grades (SREB, 2002) revealed a substantial amount of research supporting the importance of a challenging curriculum in improving student achievement. A more modest body of evidence relates curriculum to student outcomes and achievement in the middle grades (Vars, 2001; Allington and Johnston, 2000; Turner, 1995; Sosniak and Stodolsky, 1993; Snow et al, 1991). This research demonstrates the intellectual and practical benefits of a tough curriculum for students of all backgrounds, races and ethnic origins.

Even though states have content standards, schools need assistance in identifying the ones that are most important for future learning. To move the standards into the classroom, teachers need to know what to assign and what to expect of students. Teachers in a standards-based curriculum ask questions such as:

- What kinds of assignments will result in a proficient performance?
- What kinds of assessments will determine if students have deep mastery of this standard?
- What are alternative ways to teach the standards if students do not understand the first time?

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## Do students who experience the intensive reading/language arts, mathematics and science curriculum advocated by *MMGW* have significantly higher achievement?

Students who report having intensive experiences in reading, mathematics and science have significantly higher achievement regardless of race/ethnicity and mothers' educational levels. All students benefit from rigorous content and effective learning strategies planned by teachers who are given time to meet and focus on improving instruction.

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### *Reading/Language Arts*

Too many middle grades teachers are unsure about how to prepare students for high school English/language arts. Numerous curriculum documents at the national, state and district levels provide little or no guidance to teachers about the depth of understanding it takes for students to learn vital literacy skills. As a result, students end up repeating course content and experiencing coverage rather than developing proficiency on essential readiness indicators.

SREB and the states identified 17 indicators — four process indicators and 13 content indicators — for middle grades reading/language arts curriculum. The process indicators represent experiences in reading, writing, speaking and listening. The content indicators address knowledge and skills in reading, doing research, writing, speaking and listening that are needed in high school English. These indicators are described more fully in *Getting Students Ready for College-preparatory/Honors English: What Middle Grades Students Need to Know and Be Able to Do*, Murray and Bottoms, SREB, 2003.

The *MMGW*-recommended reading/language arts curriculum calls for students to read 10 to 12 books of assorted types and lengths each year both in language arts classes and in other classes; write something every day; speak and present information in a number of formats; and listen to presentations for a variety of purposes. The curriculum emphasizes vocabulary development, comprehension, writing and speaking to communicate effectively, and using research skills to locate, evaluate and organize information for various purposes.

To measure schools' progress in implementing a rigorous and challenging reading/language arts curriculum, SREB uses clusters of Middle Grades Assessment items to identify experiences related to student achievement. The literacy cluster contains eight items from the assessment. (See page 5.) The activities are grouped by frequency in order to measure the intensity of the experience. **One thing is clear: Literacy instructional strategies raise achievement not only in reading but in other academic areas as well.** (See Table 10.)

**Table 10**  
**The Effects of Literacy Experiences on Student Achievement**  
**in Reading, Mathematics and Science in 2002**

Level of Experiences	Student Responses	Mean Reading Score	Mean Mathematics Score	Mean Science Score
Low	32%	147	146	144
Moderate	46	158	156	154
Intensive	22	169	165	165

**Note:** All scores are significant at <.05.

**Reading proficiency levels:** Below Basic (134 or lower), Basic (135-171), Proficient (172-221), Advanced (222 or higher)

**Mathematics proficiency levels:** Below Basic (142 or lower), Basic (143-177), Proficient (178-209), Advanced (210 or higher)

**Science proficiency levels:** Below Basic (148 or lower), Basic (149-174), Proficient (175-211), Advanced (212 or higher)

**Low:** three or fewer activities

**Moderate:** four or five activities

**Intensive:** six to eight activities

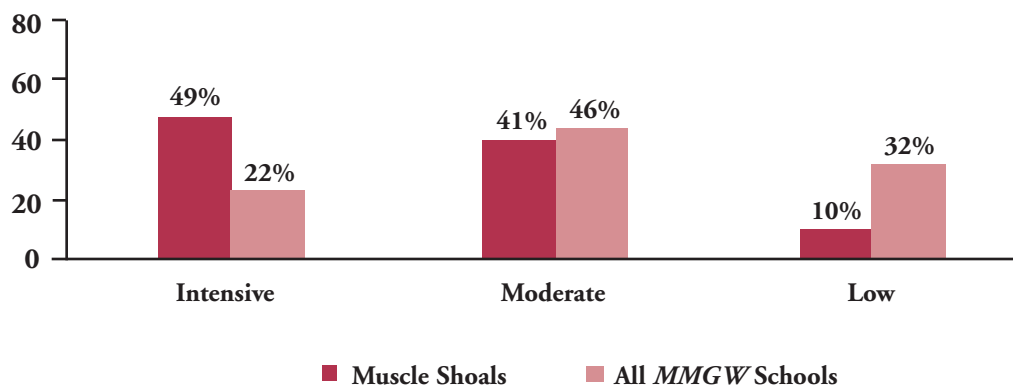
Students who have intensive literacy experiences and complete the recommended reading/language arts curriculum score higher in all subject areas. The pattern of significant improvement based on the level of intensity is the same for African-American students and for students whose mothers had a high school education or less. These students will be ready to take college-preparatory English in the ninth grade. Students who have moderate literacy experiences will need extra support, while those who have low experience will need summer school and a catch-up class in grade nine.

*Muscle Shoals Middle School in Alabama used students' scores on the Alabama writing assessment as an impetus to make needed changes. Fifth-graders' scores were low, but seventh-graders' scores were even lower. With the help of the assistant superintendent, the school formed a task force to examine curriculum and instruction in grades three through eight. The group met five times over the summer to develop common editing and grading practices and to plan professional development for teachers.*

*Teachers met twice a month after school to develop writing notebooks for students to use and share with their parents. The notebooks contain examples of writing prompts, papers for students to examine and score, and materials that meet state writing standards. Teachers collected writing samples from students and learned how to score like the experts who grade the state assessment. Because of this effort, all students write once a week in every class.*

*In the first year, the percentages of students who scored at the proficient or advanced levels on the state writing test increased from 25 percent to 88 percent. Ninety percent of eighth-graders reported intensive or moderate literacy experiences. These students had a mean score of 167 in reading — just five points below the proficient level (172).*

### A Comparison of Literacy Experiences



## Mathematics

“Numeracy” is not just the knowledge of mathematics; it is knowing how to use mathematical concepts and how quantities and relationships are represented in a variety of settings. Too many students lack mathematics proficiency when they enter high school. A survey of network schools revealed that 51 percent of students took college-preparatory Algebra I or a higher-level mathematics course in the ninth grade, while 49 percent enrolled in lower-level mathematics courses. One in four students who took Algebra I or a higher-level course failed to earn at least a C. These findings have major implications for mathematics instruction in the middle grades. They emphasize that success in a rigorous high school mathematics program is impossible unless students complete a tough mathematics curriculum in the middle grades.

The SREB-State Middle Grades Consortium involved administrators, teachers and curriculum specialists in identifying 17 readiness indicators to help schools examine what they are teaching in mathematics, how they are teaching and how frequently they are engaging students in learning mathematics skills and concepts. Five indicators deal with how students do mathematics: solving problems, reading and communicating, estimating and verifying answers and solutions, reasoning logically and using technology. The other 12 indicators define the essential content that prepares students for Algebra I. (See *Getting Students Ready for Algebra I: What Middle Grades Students Need to Know and Be Able to Do*, Bottoms and Carpenter, SREB 2002.)

The numeracy cluster for measuring mathematics progress is based on five items in the Middle Grades Assessment. (See page 6.) Students who reported intensive experiences scored at the proficient level in mathematics. These students outperformed those who reported moderate experiences by 23 points and those who reported little or no experiences by 33 points. (See Table 11.) The pattern of significant improvement based on the level of intensity is the same for African-American students and for students whose mothers completed high school or less. African-American students who had intensive numeracy experiences scored 28 points higher than those with little experience in numeracy. Students whose mothers had a high school education or less scored 30 points higher when they had intensive numeracy experiences.

**Table 11**  
**Effects of Numeracy Experiences on Student Achievement in 2002**

Level of Experiences	Student Responses	Mean Mathematics Score
Low	26%	142
Moderate	49	152
Intensive	23	175

**Note:** All scores are significant at  $<.05$ .

**Mathematics proficiency levels:** Below Basic (142 or lower), Basic (143-177), Proficient (178-209), Advanced (210 or higher)

**Low:** none or one activity

**Moderate:** two or three activities

**Intensive:** four or five activities



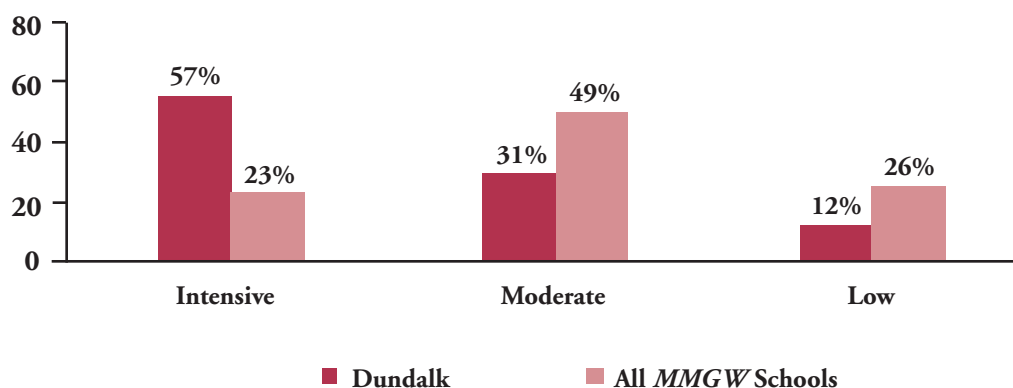
Schools that fully implement the *MMGW*-recommended mathematics curriculum can prepare many more students for high school mathematics. The curriculum engages students in using mathematics to solve problems that require reasoning and occur regularly in business, at home and in the community. The curriculum for grades six through eight — outlined in the SREB publication *Getting Students Ready for Algebra I: What Middle Grades Students Need to Know and Be Able to Do* — provides learning activities, applications and assessments to help schools develop course syllabi, lesson plans and assignments. The 17 readiness indicators in the recommended curriculum are designed to help schools set goals and priorities to prepare students to complete Algebra I successfully by the end of grade nine.

*Teachers at Dundalk Middle School in Maryland work hard to help struggling students meet higher standards. Two teachers assist students in a homework club that meets three days a week. Students give up one of their electives to participate in an algebra assistance class that meets during the school day. Parents of students who need extra help are invited to attend algebra tutoring sessions to observe what students need to know and be able to do in mathematics. Extra tutoring is available five days a week.*

*The school provides multiple ways for teachers to work together. School-wide groups of “critical friends” allow teachers to identify challenges and plan interventions. The district-established vertical teams meet by content area once a month or once a quarter. These teams align their teaching materials and strategies to meet the goal of increasing the number of students who take Advanced Placement (AP) courses in high school.*

*The combined efforts of leaders and teachers have resulted in higher mathematics achievement. The school focused on improving mathematics through curriculum alignment, better instruction and materials, and extra help for students. As a result, the mean score in mathematics on the Middle Grades Assessment rose from below basic to basic. Eighty-eight percent of eighth-graders reported moderate or intensive mathematics experiences.*

### A Comparison of Numeracy Experiences



## Science

Science plays “second fiddle” to reading/language arts and mathematics in too many middle schools. Because science covers many fields — e.g., biology, chemistry, physics — teachers are unclear about the essential skills and knowledge that students will need in high school science. Too much science instruction in the middle grades is based on getting students to memorize facts from a textbook rather than teaching students to explore, discover, hypothesize, analyze and question. Teachers need to use an inquiry approach that engages students in answering major science questions related to the community. Unfortunately, most schools lack quality science facilities and many schools cannot find qualified science teachers who know how to use the school and the community as laboratories.

What should middle grades students know and be able to do in science? Teachers can help students make important shifts in learning: 1) from dealing with things that can be seen and touched to working with things that are difficult to comprehend and 2) from using general terms, descriptions and thinking processes to using precise scientific terms. The middle grades science curriculum should balance skills related to scientific inquiry with those related to content-specific knowledge. In addition, all students should have hands-on experiences to enhance their appreciation of science.

SREB identified eight items from the science portion of the Middle Grades Assessment to describe balanced science experiences in the middle grades. (See page 7.) A pattern has emerged showing the effects of students’ science experiences on their reading, mathematics and science scores. (See Table 12.) The pattern of improvement based on experiences holds true for African-Americans and students whose mothers had at most a high school education.

**Table 12**  
**The Effects of Science Experiences on Student Achievement**  
**in Reading, Mathematics and Science in 2002**

Level of Experiences	Student Responses	Mean Science Score	Mean Mathematics Score	Mean Reading Score
Low	26%	145	147	152+
Moderate	46	154	156	158+
Intensive	25	160	161	161+

**Note:** Scores are significant at  $<.05$  unless otherwise identified.

+ Scores are not significantly different.

**Reading proficiency levels:** Below Basic (134 or lower), Basic (135-171), Proficient (172-221), Advanced (222 or higher)

**Mathematics proficiency levels:** Below Basic (142 or lower), Basic (143-177), Proficient (178-209), Advanced (210 or higher)

**Science proficiency levels:** Below Basic (148 or lower), Basic (149-174), Proficient (175-211), Advanced (212 or higher)

**Low: none to four activities**

**Moderate: five or six activities**

**Intensive: seven or eight activities**

Giving students access to appropriate content and scientific processes will raise science achievement. The recommended science curriculum outlines readiness indicators for scientific processes, skills, concepts and knowledge. (See *Getting Students Ready for College-preparatory/Honors Science: What Middle Grades Students Need to Know and Be Able to Do*.) The curriculum guide contains examples of activities and proficiency levels, as well as assessments linked to the readiness indicators.

*Rockcastle County Middle School in rural Kentucky has an enrollment of 800 students. Three out of five students are eligible for free or reduced-price lunches. Some students ride the bus for more than an hour to get to school. Despite these obstacles, the school raised science scores on the Middle Grades Assessment by 15 points in a two-year period — the same period in which overall science scores in the network declined slightly. What made the difference?*

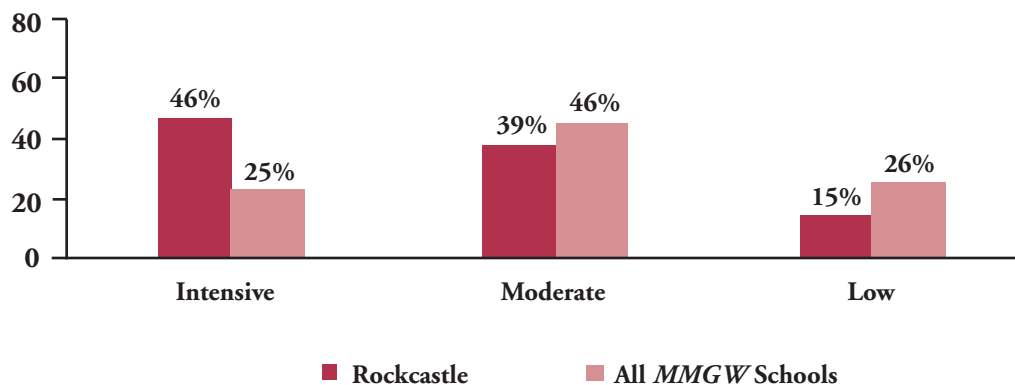
*With the principal's leadership and SREB's assistance, teachers began meeting to improve the science curriculum. Their actions included:*

- *aligning the science curriculum with national and state standards;*
- *identifying a team of teachers to refine standards for exemplary student work;*
- *helping teachers implement best practices;*
- *expanding community partnerships; and*
- *being familiar with the high school curriculum to strengthen students' transition from the middle grades to high school.*

*Teachers and administrators emphasize the importance of evaluating the curriculum. They eliminated content overlap in the seventh and eighth grades and made way for in-depth coverage of other topics. Parents supported curriculum alignment between the middle grades and the high school in the belief that it would help prepare students for the next level.*

*Eighty-five percent of eighth-graders at Rockcastle County Middle School reported moderate or intensive science experiences. The mean science score improved from below basic to midway between basic and proficient in a two-year period.*

### A Comparison of Science Experiences



### *Teachers Working Together*

Visits to schools in the middle grades network reveal an interesting paradox. Struggling schools often isolate teachers in the classroom and limit opportunities for them to learn from each other. They fail to make time for teachers to meet together at least weekly to plan instruction and to coordinate extra help for students. Teachers in some schools have time to meet every day, but they do not use the time to plan instruction, assess progress and implement effective teaching practices.

Students achieve at a higher level when teachers accept responsibility for student performance and use practices that result in rigor and challenge across the curriculum. Significantly more teachers at the 52 experienced network schools than at new schools said they have time to focus on curricular and instructional planning. (See Table 13.) Both Rockcastle County Middle School in Kentucky and Dundalk Middle School in Maryland attribute some of their success to teacher collaboration.

**Table 13**  
**Percentages of Teachers Reporting Organizational Practices**  
**that Support Teams and Staff Working Together**

Practices	52 Sites in <i>MMGW</i> for Three Years	New Sites in 2002
Teachers meet as members of academic teams to plan joint instruction at least once a week.	56%	37%
Teachers meet as members of academic and fine arts teams to plan joint instruction at least once a month.	31	21
The staff uses data reports continuously to evaluate the school's program.	45	30

Concerted efforts can yield many rewards. Teamwork helps teachers understand what to teach and how deeply to teach it in the middle grades; joins elementary and high school teachers in preparing students to succeed at every grade level; and helps study groups to review, reflect and retool their professional skills and knowledge.

*Elkins Middle School in West Virginia was established in 1993 when Randolph County consolidated schools and built a new high school. The middle school is organized into six teams — two per grade level — of about 125 students per team. Each core team includes five teachers — one each in English, reading, mathematics, science and social studies. A team focusing on related arts has one teacher each from art, band, choir, foreign language, physical education, technology, home economics, health and library media. A special education team consists of seven teachers — four teaching self-contained classes and three using an inclusion model. Each team has a coordinator who meets with the principal and the other coordinators weekly to build consensus and to keep the school heading in the right direction.*

*In 1999, West Virginia began to make massive changes in standards for students and schools. The result was an accreditation program that increased requirements for achievement and promotion, attendance and graduation rates. Elkins Middle School joined the network that year and committed to meeting and exceeding the new state standards. The school used the MMGW framework to educate, train and motivate coordinators, who shared the new knowledge with their teams.*

*Teachers at Elkins Middle School get together for two days prior to the school year to fine tune the school's action plan; they meet monthly during the school year to review and adjust the plan. They identified three action components for the first three years: curriculum mapping, writing-across-the-curriculum and student-centered instruction. Curriculum mapping eliminates overlap and reveals gaps in core content areas. Writing-across-the-curriculum addresses the state accreditation requirement that students be able to write. Student-centered, project-based instruction helps teachers motivate and assess students.*

### Middle Grades Assessment Results At Elkins Middle School 1999-2002

Mean Score	2000	2002	Point Change
Reading	152	184	+32
Mathematics	157	172	+15
Science	168	179	+11

*Students' scores on the Middle Grades Assessment improved dramatically between 1999 and 2002. Students reached the proficient level in reading and science and missed the proficient level in mathematics by only six points. The school moved from 30th to first in reading, from 20th to fourth in mathematics and from fifth to first in science among schools in the network. School leaders attribute the success to strong leadership; teachers working together to support change; comprehensive, ongoing staff development; and high expectations with an emphasis on continuous improvement.*

### Strategy 3: Engage students in classroom practices designed to raise student achievement and supported by evidence that the practices work.

#### Key Elements:

- **Engage students in learning** — Middle grades students need varied learning activities that link to challenging academic content and provide opportunities to use new skills and concepts in real-world applications.
- **Use technology for learning** — Middle grades students and teachers need opportunities to explore and use technology to improve knowledge and skills in reading/language arts, mathematics and science.

Visits to hundreds of classrooms during the past three years have shown that too many teachers continue to rely strictly on textbooks and drill sheets. Millions of dollars have been invested in technology, but many schools allow computer screens to remain blank rather than integrate technology into instruction. Students need to see connections between what they are learning and what they will be expected to know outside of school.

A few studies have found ties between middle grades instructional practices and student achievement (Allington and Johnston, 2000; Turner, 1995; Sosniak and Stodolsky, 1993). One study (Epstein and MacIver, 1992) found that “rich” instruction in the middle grades — asking students to edit, revise and resubmit written compositions — leads to increased achievement and better attitudes. Studies of mathematics instruction found that problem-solving activities result in higher proficiency scores while reducing students’ reluctance to ask questions in class. Another study (Wenglinsky, 2000) identified classroom practices associated with higher achievement by comparing eighth-graders’ scores on the National Assessment of Educational Progress (NAEP) with their teachers’ educational backgrounds and instructional practices. The study highlighted the importance of higher-order thinking skills and hands-on learning in middle grades classrooms.

A significantly higher percentage of students in network schools reported using higher-order thinking skills in 2002 than in 2000. (See Table 14.) More students in 2002 than two years earlier said they learned academic content through assignments that involved the community and were based on problems found outside of school. Students who connect school and the real world understand the subject matter better and remember more of what they study.

**Table 14**  
**Percentages of Students Reporting Real-world Experiences**  
**Requiring Higher-order Thinking Skills in 52 MMGW Schools**

Experiences	2000	2002
Completing a science laboratory project that addresses a problem in the community	43%	59%
Explaining different ways to solve a mathematics problem	77	87
Using mathematics skills to solve problems in other classes	68	77
Reading an assigned book outside of class and demonstrating understanding of the main ideas	54	76

The SREB-State Middle Grades Consortium uses a set of indicators to monitor students’ progress in using technology in core academic areas. In an article on educational technology in *Phi Delta Kappan*, James Mecklenburger wrote, “Today, students and educators alike can create, receive, collect and share data, text, images and sound on myriad topics in ways more stimulating, richer and more timely than ever before.”

MMGW sites increased the percentages of students who used word processing, scientific calculators and measuring instruments between 2000 and 2002. Students reported that they used technology in mathematics more than in any other content area. (See Table 15.)

**Table 15**  
**Percentages of Students Reporting Use of Technology**  
**At 52 MMGW Schools**

Experiences	2000	2002
Used word processing often	34%	41%
Used a scientific calculator	76	89
Used measuring instruments in mathematics	77	93

The *MMGW* comprehensive improvement framework represents a balanced instructional approach that motivates and supports students in meeting content standards. Such an approach provides reasons for students to learn content and skills; uses the community as a classroom to involve students in authentic, real-life learning; provides opportunities for students to learn from each other; and enables students to use technology to enhance understanding. A balanced instructional approach piques students' curiosity and imparts a sense of accomplishment as they use higher-level learning to complete interesting tasks.

#### **Strategy 4: Raise expectations and provide extra time and help for students who need it.**

##### **Key Elements:**

- **High expectations and a system of extra help and time** — Students learn in different ways and at different rates. Middle grades students need enough time and assistance to meet rigorous, consistent standards. The middle grades curriculum should accelerate achievement for all students.
- **A belief that all students matter** — Every student needs an adult in school who takes an interest in his or her learning, goal-setting, educational planning and personal growth.

Most teachers in the network continue to believe that many students cannot do challenging work. These teachers are more likely to credit students' success to factors outside the classroom and out of teachers' control. Only two out of five teachers strongly agree that their colleagues maintain a demanding yet supportive school environment that pushes students to do their best. Thirty-six percent of teachers say they are advisers to a core group of students, but only two out of five of these teacher-advisers talk with students and parents at least once a semester about students' readiness to do high school studies.

An extensive study of the middle grades climate (Lee and Smith, 1999) showed that both academic expectations and social support are predictors of student achievement, regardless of students' backgrounds and schools' demographic characteristics. After analyzing survey data and test scores from more than 28,000 Chicago sixth- and eighth- graders, the authors concluded that students in academically rigorous schools need strong personal support. They also acknowledged that no matter how avidly a school supports students' personal and social needs, the bottom line in academic achievement is an environment of high expectations and demands.

##### ***Expectations***

Traditionally, educators have expected much from students they thought had the ability to learn. *MMGW* asks schools to base expectations on effort rather than ability. High-performing schools send students a consistent message about what to do and how to do it. They establish guidelines and provide examples of high-quality work. Students place more value on themselves when they have to "buckle down" to meet standards.

Rigorous and challenging content is critical in raising student achievement, but teachers' expectations matter tremendously. SREB uses six items from the Middle Grades Assessment to measure students' perceptions of teachers' expectations. (See page 8.) Students whose teachers demand a lot from them have higher achievement than students who are not expected to do well. (See Table 16.) The pattern of significant improvement is based on higher expectations applied to all students, including African-American students and those whose mothers who had a high school education or less.

**Table 16**  
**Effects of Teachers' Expectations on Student Achievement**  
**in Reading, Mathematics and Science at 52 MMGW Schools 2002**

Teachers' Expectations	Student Responses	Mean Reading Score	Mean Mathematics Score	Mean Science Score
Low	27%	146	147	145
Moderate	40	156	155	153
High	32	165	161	158

**Note:** All scores are significant at <.05.

**Reading proficiency levels:** Below Basic (134 or lower), Basic (135-171), Proficient (172-221), Advanced (222 or higher)

**Mathematics proficiency levels:** Below Basic (142 or lower), Basic (143-177), Proficient (178-209), Advanced (210 or higher)

**Science proficiency levels:** Below Basic (148 or lower), Basic (149-174), Proficient (175-211), Advanced (212 or higher)

**Low:** one activity

**Moderate:** two or three activities

**High:** four to six activities

School leaders and teachers need to communicate their expectations clearly and believe passionately that students can meet higher standards. Students learn more if they are encouraged to do their best and if they know extra help is available.

**Students who perform at the basic, proficient and advanced levels on the Middle Grades Assessment are more likely to get extra help than are students who score below basic.** (See Table 17.) The assessment also revealed that students who enroll in challenging classes with high standards are more apt to receive extra help than are students who take lower-level courses with low expectations.

**Table 17**  
**Performance Levels of Students in 52 MMGW Schools**  
**Reporting Availability of Extra Help in 2002**

Experiences	Below Basic	Basic	Proficient	Advanced
Teachers are available to provide extra help at least once a week.	55%	62%	67%	60%
Extra help often is available when needed.	34	42	50	57



*Administrators and teachers at Northwest Rankin Middle School in Mississippi have high hopes for all students and provide extra help to ensure students' success. A fast-track class for fifth- and sixth-graders accelerates learning for students who are performing two to three years below grade level. The goal is to close the gap by getting students to complete two years in one. Teachers expect at least 70 percent of students to meet the goal. Seventh- and eighth-graders who need an academic boost are placed in a class with two teachers who provide integrated, interactive instruction in all core subject areas.*

*The student population at Northwest Rankin Middle School grows and fluctuates. For example, 215 students transferred into and 101 students transferred out of the school in 2001-2002. The percentage of students with English as a second language is increasing rapidly. Despite these conditions, the school enjoys steady gains in student achievement, based largely on scheduling and grouping options designed to assist students. The school improved its ranking within the network in all three areas — reading, mathematics and science. It moved from 12th to 10th in reading, from 33rd to 15th in mathematics and from 22nd to seventh in science.*

### **Middle Grades Assessment Results at Northwest Rankin Middle School**

Mean Score	2000	2002	Point Change
Reading	157	164	+7
Mathematics	152	160	+8
Science	158	166	+8

### ***Planning and Guiding Transitions***

Transitions are “reality checks” for families and schools. They force schools to ask and answer hard questions: Are middle grades students ready for high school? Are parents aware of what students will need to know and be able to do to enter high school? Simply getting through the eighth grade is not a sufficient goal. Families need to understand the meaning of high school “readiness” and the effort that schools and students will need to exert.

Research on transitions — from elementary to middle school and from the middle grades to high school — reveals patterns that affect student achievement. Especially during the transition to high school, students' grades and attendance often decline. The transition tends to be more difficult for students who lack independent study skills, fail to take middle grades courses that prepare them for high school, and score below basic on tests (Barone et al, 1991; Reyes et al, 1994).

Only 60 percent of eighth-graders with multiple risk factors graduate from high school on schedule, compared to 90 percent of other students (National Center for Education Statistics, 1996). Low-achieving students in eighth grade science are 25 percent less likely to take four years of high school science, almost 70 percent less likely to take chemistry and 75 percent less likely to take physics (Haycock and Ames, 2000). In short, students who underperform in the middle grades find it extremely difficult to make a successful transition into high school (Cooney and Bottoms, 2002).

In addition to getting more students ready for high school, middle grades leaders and teachers need to encourage high schools to place more students in college-preparatory classes in the ninth grade. SREB looked at students who completed the ninth grade after attending 44 middle grades schools assessed in 2000. The data represented slightly more than 3,000 students — about 60 percent of the original students. This study shows how middle grades learning experiences affect performance in the first year of high school. **Only 54 percent of eighth-graders who said they planned to graduate from college had enrolled in college-preparatory mathematics in grade nine.** In schools

that committed to prepare all students for college-preparatory courses in the ninth grade and worked with the high school to place students in higher-level courses, a full 80 percent of students took college-preparatory mathematics courses successfully in the ninth grade. The success rate at these schools was similar to the success rate at schools that limited freshman enrollment in college-preparatory mathematics.

Three items in the Middle Grades Assessment are associated with the impact of guidance on students' adjustment to high school. Good guidance activities — encouraging students to take algebra in the middle grades, helping students plan a high school program of study and involving parents in developing the plan — have a significant effect on how students get along in high school courses. **Students who said they experienced all three of these guidance practices scored at the proficient level in reading and approached the proficient level in mathematics.** (See Table 18.)

Developing a five-year plan helps students and their parents understand the effort it will take to succeed in high school. Such a plan gives students a reason to work hard in their academic studies.

**Table 18**  
**The Effect of Guidance on Student Achievement**  
**in Reading, Mathematics and Science at 52 MMGW Schools**

Level of Experience	Student Responses	Mean Reading Score	Mean Mathematics Score	Mean Science Score
No Guidance	28%	151+	150	150
Some Guidance	57	155+	153+	151+
Good Guidance	15	172+	172+	166+

+ Scores are significant at <.05.

**Reading proficiency levels:** Below Basic (134 or lower), Basic (135-171), Proficient (172-221), Advanced (222 or higher)

**Mathematics proficiency levels:** Below Basic (142 or lower), Basic (143-177), Proficient (178-209), Advanced (210 or higher)

**Science proficiency levels:** Below Basic (148 or lower), Basic (149-174), Proficient (175-211), Advanced (212 or higher)

Transition programs can help students adjust to high school. A report on low-income students moving to a large urban high school described a special counseling program that led to a 50 percent reduction in dropout rates and significant gains in attendance and performance (Felner et al, 1993). A study of 56 Georgia and Florida high schools revealed that schools offering extensive transition programs had significantly lower failure and dropout rates than did other schools (Hertzog and Morgan, 1999). **The best programs include a variety of activities — particularly counseling, school visits and special summer courses — to help students adapt to the high school environment and to strengthen knowledge and skills in reading, English and mathematics.**

*Easton Middle School and the school system in Talbot County, Maryland, provide a comprehensive guidance and advisement program that focuses on transition and provides an adult adviser for every student. A three-year grant enabled the school system to assign transition coordinators to help students move from the fifth to the sixth grade and from the eighth to the ninth grade with the least amount of negative impact on achievement. The coordinators spent the last half of each year with fifth- and eighth grade students and the first half of the following year with the same students who had made the transition to the sixth and ninth grades. The coordinators served as advisers, mentors and family liaisons as well as teachers' support staff.*

*When the grant ended, Talbot County converted the transition coordinators at some schools into support workers who concentrate on students and families needing assistance. The transition activities that the coordinators initiated are still in effect. Fifth-graders participate in a question-and-answer session with students at the middle school and are assigned to a counselor for the three middle grades years. Eighth-graders attend classes and eat lunch with students at the high school. Parents meet with high school teachers during the eighth grade and receive an orientation to the school. Talbot County High School has created a ninth grade academy to ease students' transition into high school and has adopted the practice of assigning one counselor plus a teacher-adviser to students for the four years of high school.*

*The guidance department organizes groups to help students deal with issues of "growing up." Students report that they feel comfortable talking with counselors about personal problems. Community agencies work with the guidance department to provide resources in and out of school.*

*MMGW wants every eighth-grader to develop a five-year plan that includes high school and one year beyond. To help students develop their plans, Easton Middle School offers career exploration that begins in the sixth grade and continues throughout the middle grades.*

Expectations play an important role in the design for comprehensive school improvement:

- Teachers, students and parents need to know what it takes to be ready for high school.
- Students need to develop independent study skills and learn to organize their time to meet academic goals.
- Students and parents need to be familiar with the various pathways leading to further education and a career.
- Leaders and teachers should increase the number of students taking challenging English, mathematics and science courses and should provide assistance to students in meeting high standards.

## **Strategy 5: Provide highly qualified teachers in the middle grades.**

### **Key Element:**

- **Qualified teachers** — Middle grades teachers must know academic content and strategies for teaching young adolescents.

Research on teachers' academic preparation and professional licensing shows clearly that teachers are major factors in student achievement. A study in Dallas, Texas, showed that students' reading and mathematics scores reflected teacher quality (Jordan, Mendro and Weerasinghe, 1997). In Boston, Massachusetts, in 1998, 10th-graders who began with the same mean scores saw increases or decreases in achievement, depending on their teachers' effectiveness.

Two researchers (Goldhaber and Brewer, 1996) used data from the National Educational Longitudinal Study to evaluate the impact of teachers' educational levels on student performance. The investigators found that certified teachers who hold degrees in mathematics are associated with higher student achievement in mathematics. Similarly, teachers who majored in science have a positive impact on their students' science scores.

**MMGW schools that improved reading, mathematics and science scores employed more teachers with academic majors in English literature, mathematics and science than did schools making no improvement.** (See Table 19.) The most-improved schools had more teachers with greater depth of content knowledge. By the same token, the poor science achievement among the schools could be due to the fact that at least 60 percent of science teachers at these schools (improved or not) hold degrees in elementary education or subjects other than science.

**Table 19**  
**Teachers with Subject Area Majors at Schools That Did and Did Not**  
**Improve in Reading, Mathematics and Science from 2000 to 2002**

	Most-improved Schools	Schools with No Improvement
<b>English Teachers</b>		
English or literature major	30%	13%
English/language arts education major	16	20
Elementary education major	32	47
Other	22	21
<b>Mathematics teachers</b>		
Mathematics major	29	13
Mathematics education major	16	28
Elementary education major	55	59
Other	—	—
<b>Science teachers</b>		
Biology, physics or chemistry major	25	22
Science education major	8	18
Elementary education major	38	37
Other	30	24

**Note:** Percentages may not total 100 due to rounding.

The 2002 *MMGW* Teacher Survey revealed that **teachers with greater subject matter knowledge tend to ask higher-level questions, engage students in learning more challenging content and use more student-centered activities.** (See Table 20.)

**Table 20**  
**Teachers' Academic Preparation and Their Activities**  
**to Make Content Rigorous and Challenging**

Teachers assigned students to:	Majored in the subject being taught	Did not major in the subject
Work on open-ended problems for which there is no immediately obvious solution at least once or twice a month.	66%	53%
Represent and analyze relationships using tables, charts or graphs at least once or twice a month.	67	58
Use word processing to complete assignments at least once or twice a month.	36	29
Participate in a class discussion about content studied at least weekly.	82	73
Work in a cooperative group to increase understanding of content at least weekly.	46	36

SREB analyzed National Assessment of Educational Progress (NAEP) data from 15 states in 1997. The study shows that teachers need to accumulate at least 16 hours of professional development in a content area each year before their instruction positively affects student achievement. The *MMGW* Teacher Survey asked teachers to identify their most-needed professional development topics and to tell how much help they had received with these topics during the past three years. (See Table 21.)

**Table 21**  
**Teachers' Perceptions of Their Professional Development Needs**  
**in *MMGW* Schools**

Professional development needs identified by teachers	2000	2002
Additional study and greater depth in content areas	68%	64%
Adapting teaching methods to students' learning styles	77	73
Establishing a classroom environment that actively involves students in learning	73	67
Teaching content through real-world applications	77	74
Using reading and writing for learning in the content areas and across the curriculum	68	62
Raising expectations for student achievement	72	64
Getting at-risk students to master complex content	78	74

Fewer teachers at experienced network schools reported needing professional development to update content knowledge and to engage students in completing challenging assignments. However, nearly two-thirds of teachers who responded to the survey said they needed additional study and greater depth of content. An even greater percentage of teachers said they wanted to learn how to involve students in learning and to use real-world applications. **Neither *MMGW* nor any other comprehensive school reform design will work to best advantage unless schools hire teachers with content knowledge and instructional skills, assign them to classrooms where they can use their knowledge and skills, and provide opportunities for current teachers to acquire new knowledge and skills.**

Professional development for middle grades teachers is fragmented and lacks follow-up to document whether instructional practices and student performance are improving. Teachers need 16 hours of professional development annually for three years in order to raise student achievement. The *MMGW* survey asked teachers to indicate the amount of professional development they received during the past three years. Results showed only a small number of teachers received ongoing, focused professional development. (See Table 22.)

**Table 22**  
**Teachers' Professional Development Experiences**  
**in Three Years at *MMGW* Schools**

Topic	No Hours*		1 to 40 Hours		41 or more Hours	
	2000	2002	2000	2002	2000	2002
Additional study and greater depth in content areas	23%	18%	65%	68%	12%	14%
Adapting teaching methods to students' learning styles	17	17	76	76	7	7
Establishing a classroom environment that actively involves students in learning	23	20	71	73	6	7
Teaching content through real-world applications	35	35	60	61	5	5
Using reading and writing for learning in the content areas and across the curriculum	27	12	66	74	7	14
Raising expectations for student achievement	32	26	62	68	6	6
Getting at-risk students to master complex content	47	50	50	47	4	3

\* Category changed from Not Applicable in 2000 to No Hours in 2002.

The percentages for each year may not equal 100 as participants could respond to more than one category.

In setting standards for high-quality professional development, the National Staff Development Council advised **schools and districts to limit one-time workshops and to develop ongoing programs with follow-up activities designed to improve teaching and learning.** Although teachers in *MMGW* schools have opportunities to work with successful teachers and to observe outstanding practices in classrooms across the district and the state, only a few say their needs are being met.

### Middle Grades Assessment Results at Paint Valley Middle School

	2000	2002	Point Change
Reading Score	141	156	+15
Mathematics Score	152	160	+8
Science Score	160	165	+5

*Students' scores at Paint Valley Middle School in Ohio have improved significantly in reading, mathematics and science since the school joined the network.*

*After the school received a technical assistance visit from SREB in 1999-2000, administrators and teachers reviewed the report and chose professional development as a priority for action. Administrators agreed to participate in professional development and the superintendent and the school board promised to support staff development for all teachers. The superintendent, the principal and six teachers attended a middle grades pre-conference and the High Schools That Work Staff Development Conference in 2000. The school sent 12 people to the conference in 2001 and 18 in 2002.*

*The district and the community committed substantial resources of time and money to provide ongoing, comprehensive professional development based on needs identified by data. Professional development activities during the three-year period included:*

- *The superintendent and the principal attended two leadership conferences.*
- *All administrators and staff participated in staff development on cooperative learning.*
- *Administrators and staff learned techniques for raising students' reading and writing skills across the curriculum.*
- *The superintendent, the principal and 16 staff members attended state and national conferences on using data to improve school and classroom practices.*
- *Ten staff members participated in two workshops on strategies to help students move from the middle grades to high school.*
- *Ten staff members attended a conference on developing and assessing performance standards.*
- *Three teachers participated in a conference on developing a comprehensive guidance system.*

*The school learned two important lessons from its focus on staff development: 1) Success depends upon having a planned professional development program that includes regular follow-up activities and 2) administrators set a good example by participating with staff in professional development. The involvement of school leaders ensured follow-up at the school and in the classroom.*



**Middle schools need to hire teachers with content majors.** An SREB comparison of schools making the most improvement and those showing no improvement underscored the importance of having teachers with content majors. If teachers know how to motivate students but lack deep understanding of how the content connects to real life, their efforts to raise student achievement will hardly make a dent in achievement.

**Teachers need help in using research-based practices in the classroom.** Mastery learning, cooperative learning and teaching reading and writing across the curriculum all have the potential to raise student achievement. When teachers adopt new techniques, they should receive follow-up and coaching in the classroom. Some research suggests that teachers need to use a new strategy at least 40 times before it becomes a natural part of the teaching process. Such practice cannot occur without support from school leaders and colleagues.

## **Strategy 6: Select strong leaders who are committed to continuous improvement.**

### **Key Elements:**

- **Strong leadership** — Middle grades schools have strong, effective principals who encourage teachers and participate with them in planning and implementing research-based improvements.
- **Use of data** — States, districts and schools continuously use data on student, school and teacher performance to review and revise school and classroom practices that will accelerate achievement.

Almost half (47 percent) of the 52 schools that had been in the network for at least three years by 2002 changed principals. Research emphasizes that high-performing schools usually have strong leaders who take responsibility for school improvement and student achievement. The importance of leadership is becoming increasingly clear as attention shifts from teachers' behaviors to students' outcomes and from emphasizing instruction to emphasizing learning (DuFour, 1992).

Principals in network schools say their major leadership challenge is to instill the belief that middle grades teachers are responsible for students' successes or failures. Sixty-eight percent of teachers at low-performing schools in 2002 felt that student performance was beyond their control; almost as many (61 percent) of teachers at high-performing schools held a similar belief.

Attitudes are hard to change without using data. **Forty-five percent of teachers at the 52 MMGW schools that had been in the network for three years in 2002 strongly agreed that they use data continuously to evaluate the school's program.** This compares with **only 30 percent of teachers at schools that joined the network in 2002.** The use of data for diagnostic purposes and instructional planning is a leadership issue. More than 70 percent of principals who responded to an SREB survey said they use assessment data to plan or revise school policies. However, only 40 percent of the principals use data to improve classroom instruction.

Leaders who commit to implement the *MMGW* design use the key practices to organize the school. The teacher survey showed that 56 percent of teachers at experienced sites were meeting as teams to plan joint academic instruction. This compares with only 37 percent of teachers at new schools in the network.

Good leaders find ways to integrate the arts into academics. Thirty-one percent of teachers at experienced schools said they meet at least monthly to plan integrated learning for the arts and academics, compared with only 21 percent of teachers at new sites.

Effective leaders update teachers' skills and monitor teaching quality. Seventy-five percent of teachers in 2002 reported that they receive regular follow-up to professional development; and 66 percent reported that other educators visited the classroom and provided feedback. At least 10 percent more teachers in 2002 than in 2000 reported working with successful teachers and observing outstanding practices in other classrooms and schools. These results indicate that leaders in the network are beginning to open doors and focus attention on improving the quality of teaching throughout the school.



Successful leaders align their resources and activities with their school's priority goals. Between 1999 and 2002, most schools concentrated on improving literacy. Therefore, it comes as no surprise that most schools made greater gains in literacy than in other areas. Twice as many teachers (14 percent) in 2002 than in 2000 said they received help in using reading and writing for learning in the content areas and across the curriculum. The best principals select a need, create an organizational system and provide professional development to meet the need.

*Stemmers Run Middle School in Baltimore County, Maryland, is located in a working-class neighborhood where 46 percent of students are eligible for free or reduced-price meals. The annual turnover rate among students is about 30 percent.*

*Principal Michael Johnson “inherited” a failing school. Scores in all academic areas tested by the state had declined for three consecutive years and the school had been placed on the state’s list of low-performing schools slated for reconstitution. Morale was low and teacher turnover was high. There were no consistent policies for raising student performance and no comprehensive plan for improving the school.*

*The school has changed dramatically in three years. Students’ scores are showing steady progress in all academic areas and the school is “out of the doghouse” with the state. The school had its all-time best performance on the 2002 Maryland state assessment. Its ranking among network schools that assessed students in both 2000 and 2002 improved **from 43rd to third in reading, from 47th to 21st in mathematics and from 47th to 25th in science.***

*Johnson gives the most credit for improvement to raising expectations in the classroom. He observed and evaluated every teacher during his first year as principal. Second, he and the staff developed a comprehensive improvement plan based on the MMGW framework. The plan focused on two areas: 1) improving students’ reading skills and 2) strengthening mathematics skills needed for success in algebra.*

*To improve reading achievement, teachers participated in staff development and planned student-centered instruction. They placed students in two groups — emergent readers and strategic readers. In raising mathematics achievement, the school eliminated general mathematics and placed all eighth-graders in either pre-algebra or algebra.*

*Johnson cited three leadership practices that contributed to the school’s “about face.” First, he knew what constituted effective instruction. He had honed his own teaching skills to get students to learn mathematics. Second, when he was an assistant principal, he was assigned to work with teachers on improving curriculum and instruction in the high school. Third, he had been offered outstanding professional development opportunities in Baltimore County — especially mentoring and information on research-based instruction.*

Successful middle grades leaders have a vision for improving curriculum, instruction and school climate. They supply information and experiences to change teachers’ minds about improving the performance of all students. In doing so, they ask teachers these questions:

- How did you decide what to teach in the lesson?
- How is the lesson aligned with the standards in that subject?
- How are you going to assess the concepts in the lesson?
- How are you going to reteach concepts to students who do not master the content the first time?
- How does this lesson address a need in your classroom?

To ensure productive discussions about curriculum and instruction, effective leaders take their leadership teams of department heads and other administrators into the classroom to observe teachers interacting with students. They talk with students about the lessons and examine their work. They ask students these questions:

- Which assignment are you doing?
- Why do you need to know what is in this assignment?
- What have you learned in the past that will help you complete this assignment?
- How will you know when your work is good enough to turn in to the teacher?
- What happens when your work is not good enough?

Dedicated middle grades leaders contact administrators from nearby elementary schools and high schools to discuss performance standards. They diagnose the middle school's strengths and weaknesses and take action to shore up students' middle grades experiences.

## Does the *Making Middle Grades Work* comprehensive improvement design work?

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The emphasis on raising student achievement through a set of key practices will work in all kinds of schools. The 52 original schools raised student achievement in both reading and mathematics. This group includes rural and urban schools ranging in size from fewer than 100 students to more than 1,300 students. It also includes minority student populations ranging from zero to 90 percent. Students eligible for free or reduced-price lunches total between 14 percent and 88 percent at these schools.

Schools in the network prepare students for college-preparatory work in high school by providing challenging content, assignments and engaging instructional activities in reading, mathematics and science that raise achievement. Students who take part in these activities perform at significantly higher levels — regardless of race, ethnicity or economic status. In schools where eighth-graders made the most improvement in all three areas (reading, mathematics and science), more students reported intensive literacy experiences. Eighth-graders who reported intensive numeracy experiences achieved at or near the proficiency level in mathematics.

Other factors make a difference: The most-improved schools have teachers with content majors who use engaging activities to increase the rigor of academic courses. Eighth-graders who have access to extra help are more likely to perform at a higher level.

Three things that contribute to dramatically higher achievement are 1) giving students an adult in the school who acts as a personal adviser, 2) encouraging students to take hard courses like Algebra I, and 3) involving parents in helping students plan for high school success. Students who have a five-year plan when they leave the middle grades are more likely to stay on track when they enter high school.

There is ample evidence that the design works in raising student achievement and preparing students for rigorous high school studies. Seventy-three percent of the original *MMGW* schools showed progress in implementing the design over a three-year period.

## What can states, districts and schools do to encourage and support full implementation of the *Making Middle Grades Work* comprehensive improvement design?

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**Agree that the role of the middle grades is to prepare students for challenging studies in high school.** Assist school and community leaders across the state to focus on this mission. States can help districts and schools establish middle grades performance indicators and track progress in fulfilling the mission. Indicators might include the percentages of eighth-graders meeting the state's high school readiness standards in English/language arts/reading, mathematics and science and the percentages of ninth-graders taking college-preparatory courses. States, districts and schools can monitor and report on these indicators as they prepare students to take and be successful in college-preparatory courses in grade nine.

**States must lead districts and schools in stating clearly what students need to know and be able to do to succeed in high school studies.** State content standards can be used in producing guides that identify readiness for college-preparatory Algebra I and ninth grade English and science. The guides can:

- Identify essential content and process indicators for each subject.
- Describe instruction that matches each indicator in the readiness guide.
- Illustrate the level of performance needed for college-preparatory readiness.
- Provide examples of assignments.
- Share examples of assessment items that illustrate the level of understanding needed to meet state standards in a subject.

Readiness guides will help districts and schools align the curriculum, review teachers' assignments and examine scoring guidelines in preparing middle grades students for high school.

**States can set reasonable performance standards to determine if students are ready to do challenging high school work.** States can conduct research to determine the performance levels on eighth grade assessments that will predict success in college-preparatory courses in the ninth grade. Then they can ask districts and schools to translate the performance levels into the rigor needed to prepare students for high school.

**States, districts and schools can make a commitment to provide extra time and high-quality extra help for students who need it.** For state programs to be effective, districts must identify struggling students as early as possible — no later than grade seven in middle school — and plan ways to increase instructional time in reading and mathematics. Many students performing at the basic level on state eighth grade exams can succeed in a challenging high school course in that subject if teachers are willing to provide extra help.

**States can lead districts to plan smooth transitions among schools to prepare students for challenging studies.** The middle grades are part of a system that serves students in kindergarten through grade 12. Given the number of middle grades students who are not proficient in academic subjects, districts must provide quality extra help and time for students to catch-up before they leave the middle grades, during the summer and in the ninth grade. In districts that have smoothly functioning transition plans, schools organize and use teachers as advisers and mentors for middle grades students, schedule meetings with students and parents to talk about colleges and careers, and enlist community leaders as role models and career advisers.

**States can close certification loopholes and require districts and schools to employ only teachers who have content knowledge and instructional skills to teach English/language arts/reading, mathematics, science and social studies.** Districts and schools must assign teachers who majored in certain subjects to teach those courses. They can provide professional development to update teachers' content knowledge and to implement effective, research-based practices in the classroom.

**States can encourage universities and local school districts to work together to prepare school leaders who can analyze and interpret research data, understand curriculum and instruction, and get people to work together.** Universities and school districts can provide experiences to help carefully chosen educators become strong middle grades leaders. These experiences include:

- observing effective school leaders;
- working with others to solve specific curriculum and instructional problems; and
- interacting with university faculty members who have practical and research-based knowledge of effective school practices.

**States and districts can provide coaching to build the capacity of low-performing schools to improve curriculum, instruction and student achievement.** About 30 percent of the original 52 *MMGW* schools showed no improvement in reading, mathematics or science during the first three years. These schools need intensive assistance by trusted coaches to help them improve morale and change the dysfunctional school climate.

**A cluster of middle grades schools and a receiving high school can produce lasting, systemic change.** *MMGW* schools that worked with other schools in the system to improve transition in grades six through 12 made more progress in implementing the *MMGW* design and in improving student performance and were able to withstand personnel losses better than schools that tried to "go it alone."

Changing familiar practices and policies and finding different ways to improve student achievement is a difficult undertaking and even more difficult for a single school acting alone. By working together, states, districts and schools can accelerate the progress needed to meet national, state and local student achievement goals.

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## New Resources

The complete materials list is available online at [www.sreb.org](http://www.sreb.org). To order materials, contact the SREB Publications Orders Department at (404) 875-9211 ext. 236.

### **A Highly Qualified Teacher in Every Middle Grades Classroom: What States, Districts and Schools Can Do**

With teacher turnover on the rise, one of the most critical issues facing the middle grades today is the quality of middle grades teachers. This publication recommends seven key practices for increasing the number of highly qualified teachers in the middle grades.

By Gene Bottoms and Sondra Cooney  
(02V56); 20 pages; \$2.50 each

### **Improving the Middle Grades: Actions That Can Be Taken Now**

Even in times of fiscal austerity, states can strengthen middle grades education. This publication defines six steps states can take to raise achievement and meet the SREB challenge to lead goal that achievement in the middle grades for all groups of students exceeds national averages and performance gaps are closed.

By Gene Bottoms, Kathleen Carpenter and Sondra Cooney  
(03V02); 8 pages; \$1 each

### **Good Principals Are the Key to Successful Schools: Six Strategies to Get More Good Principals**

SREB recognizes that effective leaders are essential if all students are to achieve at high levels. The SREB leadership goal is very ambitious: "Every school has leadership that results in improved student performance — and leadership begins with an effective principal." This report defines six strategies that state and local leaders can use to achieve that goal.

By Kathy O'Neill, Betty Fry, David Hill and Gene Bottoms  
(03V03); 32 pages; \$3 each, \$1.50 each for 10 or more

### **Research Brief: Factors Affecting Mathematics Achievement for Students in Rural Schools**

This research brief is based on a study of more than 2,400 eighth-graders and more than 1,900 12th-graders in 24 clusters of rural high schools and their feeder middle grades in seven states. It surveys the mathematics achievement of eighth- and 12th-graders in these rural schools and looks at how course-taking patterns and classroom practices have affected achievement. It also offers strategies that schools can use to raise student achievement in mathematics.

By Gene Bottoms and Kathleen Carpenter  
(03V04); 20 pages; \$2 each, \$1 each for 10 or more

### **Doing What Works: Moving Together on High Standards for All Students**

Schools that make big gains in achievement are those that set high standards and dig deep to discover effective practices. Everyone connected with such a school works together toward a common goal. This publication explains how to organize school study teams that can work cooperatively to understand what changes are needed and to implement and refine the key practices accordingly.

By Gene Bottoms, Lingling Han and Alice Presson  
(03V07); 40 pages; \$5 each, \$3 each for 10 or more

### **Update Newsletter Fall 2003: Positive School Culture**

This issue of the *High Schools That Work* newsletter offers a framework for evaluating school culture and making necessary changes to improve student achievement. The lead article examines the male vs. female culture in our nation's high schools and how this gender gap affects achievement. Several articles provide school leaders and teachers with experienced practitioners' insights on effective ways to assess school culture and transform it into one in which all students can succeed.

(03V58); 40 pages; free

### **Academies in the Lead: Redesigning Leadership Academies for Student Achievement**

This semiannual newsletter reports on the progress and activities of SREB's Leadership Academy Network. This issue looks at how some states are redesigning their leadership academies to help teams from low-performing schools develop improvement efforts in curriculum, instruction and school achievement. Academy leaders, an academy participant and SREB's curriculum designer offer insights on the importance of changing the traditional view of leadership preparation and development. Also included is a brief description of SREB's Leadership Modules.

(03V59); 28 pages; free

### **Getting Students Ready for College-preparatory/Honors English: What Middle Grades Students Need to Know and Be Able to Do**

This curriculum framework is an effort to ensure that students leave the middle grades with the knowledge and skills to succeed in college-preparatory/honors English. Educators can use this framework in developing course syllabi, lesson plans, assignments, assessments and professional development activities that will prepare students for rigorous English classes in high school.

(03V61); 60 pages; \$5 each, \$2.50 for 10 or more

### **Videos from the 2003 Summer Conference**

Videotapes of selected keynote addresses and conference sessions from the 2003 summer conference are available — some in CD format. These videos are designed to support local professional development in raising the achievement of high school and middle grades students. They range from 50 to 90 minutes in length and cost \$30 for VHS tapes and \$25 for CDs. To obtain the video list, contact SREB at (404) 875-9211, ext. 236, or visit the Web site at [www.sreb.org](http://www.sreb.org).

### **Summer 2003 Materials List and Order Form**

The catalog of SREB's school improvement resources has been updated to include new publications, videos and other items. The list contains books, special reports, research briefs, case studies, site development guides, outstanding practices publications, middle grades reports, videos and video packages, and school banners.

(03V06); 24 pages; single copies free, \$.50 each for 10 or more



## ***MMGW Goals***

- Increase the percentages of eighth-graders who perform at the Basic and Proficient levels in academic subjects.
- Provide educational experiences that increase students' knowledge and skills in reading, mathematics, language arts, science and social studies.
- Provide students with opportunities to apply their skills in the fine arts and to explore careers and new technology.

## ***MMGW Improvement Framework***

**An academic core** — All students in the middle grades need an academic core curriculum that accelerates their learning so they succeed in college-preparatory English, mathematics and science.

**All students matter** — Each middle grades student needs an adult who takes interest in his or her successful learning, goal-setting, educational planning and personal growth.

**High expectations and extra time and help** — Middle grades students need enough time and help to meet more rigorous, consistent standards in a curriculum that accelerates achievement for all students.

**Classroom practices that engage students** — Young adolescents need varied learning activities linked to challenging academic content and opportunities to use new skills and concepts in real-world applications.

**Use of data** — States, districts and schools continuously must use data on student, school and teacher performance to review and revise middle grades school and classroom practices as needed.

**Teachers working together** — All middle grades teachers need time to plan together, to develop and coordinate learning activities, and to share student work that meets proficiency standards.

**Support from parents** — Parents must understand clearly and must support the higher standards for performance in the middle grades.

**Qualified teachers** — Middle grades teachers must know academic content and how to teach young adolescents.

**Use of technology for learning** — Middle grades students and teachers must have opportunities to explore and use technology to improve knowledge and skills in English/language arts, reading, mathematics, science and social studies.

**Strong leadership** — Middle grades schools need strong, effective principals who encourage teachers and participate with them in planning and implementing research-based improvements.

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### **SREB Challenge to Lead Goals for Education**

1. All children are ready for the first grade.
2. Achievement in the early grades for all groups of students exceeds national averages and performance gaps are closed.
3. Achievement in the middle grades for all groups of students exceeds national averages and performance gaps are closed.
4. All young adults have a high school diploma — or, if not, pass the GED tests.
5. All recent high school graduates have solid academic preparation and are ready for postsecondary education and a career.
6. Adults who are not high school graduates participate in literacy and job-skills training and further education.
7. The percentage of adults who earn postsecondary degrees or technical certificates exceeds national averages.
8. Every school has higher student performance and meets state academic standards for all students each year.
9. Every school has leadership that results in improved student performance — and leadership begins with an effective school principal.
10. Every student is taught by qualified teachers.
11. The quality of colleges and universities is regularly assessed and funding is targeted to quality, efficiency and state needs.
12. The state places a high priority on an education system of schools, colleges and universities that is accountable.